

REMARKS

Reconsideration of the application, as amended, is respectfully requested.

I. STATUS OF THE CLAIMS

Claims 1-27 are pending in this application. Claims 1, 7, 10, 12, 15, 17, 24 and 27 have been amended. In particular, claim 1 has amended to further clarify that the surfactant of the cleaning solution is $C_{12}H_{25}O(CH_2CH_2O)_JH$, wherein J is an integer ranging from 5 to 15. In addition, claim 15 has been amended to further clarify that the cleaning solution includes an alkaline solution, wherein the alkaline solution is selected from the group consisting of ammonium hydroxide (NH_4OH), an alkaline chloride solution and any mixtures thereof. Moreover, claims 6, 8, 22, 23, 25 and 26 have been canceled without prejudice.

Support for the above amendments may be found throughout the specification as originally filed. No new matter has been added by virtue of this amendment.

II. OBJECTION TO THE ABSTRACT

The abstract of the disclosure has been objected to on the grounds that it is not limited to a single paragraph.

In response, a new abstract in compliance with MPEP 608.01 has been submitted herewith on a separate sheet. No new matter has been added by virtue of this amendment.

In view of the above action taken, it is believed that the above objection has been obviated. Thus, removal of the objection to the abstract is respectfully requested.

III. 35 U.S.C. § 112, SECOND PARAGRAPH REJECTIONS

Claims 10 and 23 have been rejected under 35 U.S.C. 112, second paragraph on the grounds that the expression "the alkaline solution...chloride solution" is indefinite because according to the Examiner, a chloride solution is not an alkaline solution. In addition, claim 10 was rejected on the grounds that the markush language in this claim is improper because the phrase "selected from the group consisting of" should be followed by "and" rather than "or".

In response, claim 10 has been amended to replace the expression "chloride solution" with "alkaline chloride solution". It is clear from claim 10 that the prior recitation of chloride solution alone was an obvious typographical error. In addition, claim 10 has also been amended to replace the term "or" with "and" after the phrase "selected from the group consisting of"

Claims 12 and 25 were rejected as being indefinite on the grounds that "m" and "n" of $(\text{mP}_2\text{O}_5 \cdot \text{nH}_2\text{O})$ recited in these claims are not defined. Moreover, claims 13 and 26 were also rejected for depending upon claims 12 and 25, respectively.

In response, it is noted that the expression for phosphoric acid may be expressed, for example, by either the chemical formula $(\text{mP}_2\text{O}_5 \cdot \text{nH}_2\text{O})$ or (H_3PO_4) ". One skilled in the art would clearly understand what the integers "m" and "n" are for representing phosphoric acid with the formula $(\text{mP}_2\text{O}_5 \cdot \text{nH}_2\text{O})$. However, for the sake of further clarification, claim 12 has been amended to replace the expression "phosphoric acid $(\text{mP}_2\text{O}_5 \cdot \text{nH}_2\text{O})$ " with "phosphoric acid (H_3PO_4)".

Claim 17 was rejected as being indefinite on the grounds that the term "formula 1" recited in line 2 of the claim lacks support in claim 15.

In response, claim 17 has been amended to remove the term "formula 1" from the claim.

In view of the above action taken, it is believed that all of the above rejections have been obviated. Thus, removal of all of the above rejections is respectfully requested.

IV. 35 U.S.C. 102(b) and 35 U.S.C. 103(a) REJECTIONS

(i) Claims 1-7, 9, 12, 14-20, 22, 25 and 27 have been rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent No. 4,670,186 to Quinlan ("the Quinlan patent").

(ii) Claims 15-18 and 22-24 have been rejected under 25 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,849,467 to Sato et al. ("the Sato patent").

(iii) Claims 1-7 and 15-20 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,311,618 to Schaefer-Burkhard ("the Schaefer Burkhard patent").

(iv) Claims 1-2, 4, 6, 9, 12-15, 17, 19, 22, 25-27 have been rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,032,466 to Otrhalek et al. ("the Otrhalek patent")

(v) Claims 8 and 21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Quinlan as applied to the above claims.

(vi) Claims 1-5 and 9-11 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Sato as applied to the above claims.

(vii) Claims 3, 5, 16 and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Otrhalek as applied to the above claims, and further in view of Quinlan.

(viii) Claims 7-8 and 20-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Otrhalek as applied to the above claims.

(ix) Claims 1-11 and 15-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,817,252 to Hu et al. ("the Hu patent").

In order for a claim to be rendered unpatentable by the cited art, the cited art must either (i) anticipate the claim or otherwise (ii) render the claim obvious. A claim is anticipated only if

each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. (See MPEP 2133, *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Alternatively, to establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the cited reference or references. (See MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

However, the Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu references alone or in combination each fail to teach or suggest all of the features recited in claims 1 and 15.

A. References fails to teach or suggest all of the limitations of claim 1

As mentioned above claim 1 has been amended to further clarify that the surfactant of the cleaning solution is $C_{12}H_{25}O(CH_2CH_2O)_JH$, wherein J is an integer ranging from 5 to 15.

In particular, Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu at the very least each fail to teach or suggest a cleaning solution which includes a surfactant which is $C_{12}H_{25}O(CH_2CH_2O)_JH$, wherein J is an integer ranging from 5 to 15, as recited in claim 1.

In contrast, Quinlan describes non-ionic surfactants such as dodecyl alcohol +20 mols ethylene oxide, Dinonyphenol + 18 mols ethylene oxide, nonylphenol + 15 mols ethylene oxide, stearylamine +25 mols ethylene oxide and nonylphenol +15 mols ethylene oxide. (See **table in Cols. 7 and 8 of Quinlan**). However, none of the surfactants described in Quinlan, including those mentioned above, fall within the specific surfactant recited in claim 1. Furthermore, the dodecyl alcohol +20 mols ethylene oxide mentioned by the Examiner in the instant Office Action does not fall within the surfactant recited in claim 1 because at the very least the 20 mols of ethylene oxide exceeds the 5 to 15 integer values for J of the formula for the surfactant of claim 1.

Although Sato mentions that certain non-ionic and anionic surface active agents may be used with its cleaning solution, none of these surfactants fall within the surfactant recited in

claim 1 (See Col. 5, lines 41-48 of Sato). Thus, Sato at the very least fails to teach or suggest the specific surfactant recited in claim 1.

In addition, the Schaefer-Burkhard reference fails to teach or suggest the specific surfactant recited in claim 1. The C₁₈ alcohol mixed polymer ether surfactant mentioned in Schaefer-Burkard, which includes 12 moles of propylene oxide and 6 moles of ethylene oxide is clearly not a surfactant which falls within C₁₂H₂₅O(CH₂CH₂O)_JH, wherein J is an integer ranging from 5 to 15, as required by claim 1. (See Example 4 in Col.14 of Schaefer-Burkhard).

Next, Otrhalek reference generally mentions that its cleaning solutions may include ethoxylated monohydric alcohol surfactants. (See Col. 9, lines 1-3 of Otrhalek). However, Otrhalek at the very least fails to teach or suggest a cleaning solution which includes the specific surfactant of C₁₂H₂₅O(CH₂CH₂O)_JH, wherein J is an integer ranging from 5 to 15, as recited in claim 1.

Furthermore, the Hu reference generally mentions that its cleaning solutions may include alkoxyated derivatives of alcohols as surfactants. (See Col. 5, lines 55-61 of Hu). However, Hu fails to teach or suggest a cleaning solution which includes the specific surfactant of C₁₂H₂₅O(CH₂CH₂O)_JH, wherein J is an integer ranging from 5 to 15, as recited in claim 1.

Thus, for at least the reasons set forth above, the Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu references each at the very least fail to teach or suggest a cleaning solution which includes a surfactant which is C₁₂H₂₅O(CH₂CH₂O)_JH, wherein J is an integer ranging from 5 to 15, as recited in claim 1.

Moreover, contrary to what is stated on pages 8-10 of the instant Office Action, it would not have been obvious to one skilled in the art to provide the specific surfactant of C₁₂H₂₅O(CH₂CH₂O)_JH, wherein J is an integer ranging from 5 to 15, as recited in claim 1 with any of the compositions of Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu for at least the reasons set forth below. For one, it is a well established fact in the field of U.S. patent law that the chemical art is an unpredictable art. (See *In re Marzocchi*, 439 F.2d 220, 223-24, 169 USPQ 367, 368-70 (CCPA 1971) and 2164.03 of the MPEP) Even the slightest change in a

compound may alter its chemical properties and reactive properties. Therefore, due to the unpredictability of chemical compounds and chemical reactions, it would not have been obvious to one skilled in the art to provide the specific surfactant recited in claim 1 with a reasonable expectation of success. In addition, the teachings of Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu also fail to provide sufficient motivation to one skilled in the art to modify any of these cited references to include the specific surfactant recited in claim 1. Pursuant to U.S. patent law, in order to modify a reference, there must be some teaching in the art regarding the desirability of doing so. (See MPEP 2143.01) However, Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu each fail to provide such a desirability or teaching. Rather, as mentioned, Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu simply either generally mention which types of surfactants may be used or provide a voluminous list of possible surfactants to choose from and different cleaning solutions to prepare, without any hint or suggestion as to the desirability of choosing the specific surfactant recited in claim 1.

Therefore, withdrawal of the above rejections to claim 1 is respectfully requested. As claims 2-5, 7 and 9-14 depend from and incorporate all of the limitations of claim 1, withdrawal of the rejection to these dependent claims is also respectfully requested.

B. References fails to teach or suggest all of the limitations of claim 15

Moreover, the Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu references alone or in combination each fail to teach or suggest all of the features recited in claims 15.

As mentioned above, claim 15 has been amended to further clarify that the cleaning solution includes an alkaline solution, wherein the alkaline solution is selected from the group consisting of ammonium hydroxide (NH₄OH), an alkaline chloride solution and any mixtures thereof.

In particular, Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu at the very least each fail to teach or suggest a cleaning solution including a corrosion inhibitor and an alkaline solution, wherein the alkaline solution is selected from the group consisting of ammonium hydroxide (NH₄OH), an alkaline chloride solution and any mixtures thereof, as recited in claim 15.

In contrast, Quinlan, Schafer-Burkhard and Otrhalek are each completely silent regarding a cleaning solution including a corrosion inhibitor and an alkaline solution, wherein the alkaline solution is selected from the group consisting of ammonium hydroxide (NH₄OH), an alkaline chloride solution and any mixtures thereof, as recited in claim 15. Sato mentions the use of tetramethylammonium hydroxide with its compositions (**See Col. 8, line 8 of Sato**) and Hu mentions the use of potassium hydroxide or sodium hydroxide with its compositions (**See Col. 6, lines 4-5 of Hu**). However, at the very least none of the above cited references in the instant Office Action teaches or suggests a cleaning solution which includes the specific alkaline solution in conjunction with a corrosion inhibitor as recited in claim 15.

Moreover, it would not to have been obvious to one skilled in the art to provide a cleaning solution including the specific alkaline solution in conjunction with a corrosion inhibitor as recited in claim 15, due to the unpredictability of the chemical art as discussed above with regard to claim 1. Furthermore, with the voluminous list of possible alkaline solutions which may be used in cleaning solutions, and the failure of Quinlan, Sato, Schafer-Burkhard, Otrhalek and Hu to provide any hint or suggestion as to the desirability of choosing the specific alkaline solution recited in claim 15, these references thus fail to provide sufficient motivation to one skilled in the art to modify any of these cited references to include the specific alkaline solution recited in claim 15.

Therefore, withdrawal of the above rejections to claim 15 is respectfully requested. As claims 16-21, 24 and 27 depend from and incorporate all of the limitations of claim 15, withdrawal of the rejection to these dependent claims is also respectfully requested.

V. NONSTATUTORY DOUBLE PATENTING

(i) Claims 2-3, 5, 15, 16 and 18 have been provisionally rejected on the ground of nonstatutory obviousness type double patenting over claims 4-5 of copending U.S. Patent Application Serial No. 10/982,406.

(ii) Claims 1-3, 5, 15, 16 and 18 have been provisionally rejected on the ground of nonstatutory obviousness type double patenting over claims 9-10 of copending U.S. Patent Application Serial No. 11/038,585.

Applicants respectfully request that consideration of the above matter be stayed until such time when the present application is indicated as in condition for allowance. At that time, Applicants will decide whether or not to file a terminal disclaimer in compliance with 37 C.F.R. 1.321 (c).

VI. CONCLUSION:

For the foregoing reasons, the present application is believed to be in condition for allowance. The Examiner's early and favorable action is respectfully requested.

The Examiner is invited to contact the undersigned if he has any questions or comments in this matter.

Respectfully submitted,



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